blood pressure, family history of hypertension) based on 2001 model, GDM increased the risk of adverse outcomes that included neonatal intensive care unit (NICU), macrosomia, HDP, LGA, premature delivery and cesarean delivery in the model of 2010. The value of adjusted RR (95%CI) were: 2.38(1.36-4.18), 2.13 (1.48-3.07), 2.01(1.17-3.46), 1.67 (1.36-2.04), 1.48(1.02-2.15), 1.44 (1.26-1.63), respectively. The incidence of adverse maternal outcomes of GDM subjects in 2010 (78.50%) was less than that (94.68%) in 2001 (X^2=13.22, P<0.01).

CONCLUSIONS GDM had a close relationship with adverse perinatal outcomes in both 2001 and 2010. The rank of above outcomes had changed in different stages, with the most serious outcome being macrosomia in 2001 and NICU in 2010. Although the maternal outcomes have improved over the past 10 years, further efforts are needed to reduce adverse neonatal outcomes.

GW26-e4793

Comparative efficacy and acceptability of glycemic control of glucagon-like peptide-1 receptor agonists for type 2 diabetes: a systematic review and network meta-analysis

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OBJECTIVES The systematic review was to assess the comparative effects of GLP-1 RAs on glycemic control, hypoglycemia and treatment discontinuation for treating type 2 diabetes.

METHODS We searched MEDLINE, EMBASE, the Cochrane library, and www.clinicaltrials.gov from inception to June 1, 2014. Randomized controlled trials comparing a GLP-1 RA with placebo, active anti-diabetic drugs, or other kinds of GLP-1 RAs for type 2 diabetes were included. We only considered the doses of GLP-1 RAs used in routine clinical practice. Eligible trials should have available data on the outcomes of HbA1c <7%, hypoglycemia or treatment discontinuation, with the follow-up of at least 8 weeks. The revised JADAD scale was used to assess risk of bias of the included studies. Network meta-analysis using multivariate model with multi-arm trials adjusted was conducted. We applied loop-specific approach to test the assumption of consistency. Ranking of treatment effects was based on probability shown by the surface under the cumulative ranking curve.

RESULTS From a total of 1139 retrieved records, 78 eligible trials with 34,685 patients were included. 13 different treatments compared in the network included daily exenatide, weekly exenatide, liraglutide, albiglutide, taspoglutide, lixisenatide, dulaglutide, sitagliptin, insulin, thiazolidinedione, sulphanylureas, metformin, and Placebo. The mean and standard deviation of JADAD scores was 5.60 and 1.36, indicating overall low risk of bias of the trials. No significant differences were found on the outcome of HbA1c<7% between any of GLP-1 RAs and any of traditional anti-diabetes treatments. However, daily exenatide, liraglutide, taspoglutide and lixisenatide induced significantly less hypoglycemia (odds ratio (95%CI): 0.63 (0.43, 0.93), 0.42 (0.25, 0.71), 0.43 (0.23, 0.81), 0.43 (0.22, 0.81), respectively) but significantly higher treatment discontinuation (odds ratio (95%CI): 2.50 (1.33, 5.00), 2.42 (1.29, 4.78), 5.51 (2.71, 12.08), 2.28 (1.02, 5.32), respectively) than insulin. Compared with sulphanylureas there was significant reduction in hypoglycemia but higher discontinuation in GLP-1 RAs. Any of the GLP-1 RAs had similar odds of hypoglycemia or discontinuation to metformin. Weekly exenatide ranked top on the outcome of HbA1c <7%, sulphanylureas and taspoglutide may have the most serious problem on hypoglycemia and treatment discontinuation respectively. 13.7% (10/73), 1.5% (2/128) and 13.4% (7/52) loops were inconsistent respectively for the outcome of HbA1c <7%, hypoglycemia and treatment discontinuation, suggesting overall consistency.

CONCLUSIONS GLP-1 RAs may have similar efficacy of lowering HbA1c to traditional anti-diabetes treatments and probably induce less hypoglycemia and higher treatment discontinuation. Insufficient number of trials in some pairwise comparisons may produce statistical inconsistency and uncertainty of the results, which require further robust evidence from well-designed trials.

GW26-e1839

Efficacy of exercise-only versus exercise-diet in the prevention of type 2 diabetes among pre-diabetic population: A meta-analysis

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OBJECTIVES Exercise is considered a protective factor in the prevention of type 2 diabetes (T2D), though its role as a sole treatment for pre-diabetes remains unknown. The present meta-analysis compares the effect of exercise-only to exercise-diet interventions on plasma glucose levels among a pre-diabetic population.

METHODS A literature search using PUBMED, EMBASE and COCHRANE databases yielded 12 studies for analysis. Cochrane Collaborations tool and the Jadad scale were used to assess the quality of the included articles. A random effects model was used to calculate the pooled effect. Weighted mean difference (WMD) was calculated to indicate the change of fast glucose level. Meta-regression was undertaken to explore the impact of risk of bias for the included studies and the forest plot was conducted to explore the relationship between interventions.

RESULTS A total of 4,021 subjects were included in the analysis, 2,045 of them in the intervention group and 1,976 in the control group. Compared to the exercise-only interventions, the exercise-diet interventions showed a significant effect on decreasing fasting plasma glucose (Z=12.06, P<0.05). The subgroup effect of exercise-only interventions did not produce a statistically significant result (Z=1.91, P>0.05), however, it still revealed a clinically significant decrease in fasting plasma glucose(WMD=-0.19, 95%CI:-0.18,0.00). According to four different intervention periods, the shortest period intervention (less than 1year) did not display a significant effect for glucose control (Z=1.35, P>0.05). and its WMD (95% CI) was -0.12 mmol/L (-0.20,0.05). There was a significant effect (Z=7.19, P<0.05) in 1-year subgroup. The longer the intervention period was, the higher the subtotal effect was. The pooled effect in ≥3 years subgroup was the highest with WMD(95% CI)=-0.24 mmol/L (-0.22,0.15). When participants were divided into two groups according to age, individuals within 40-55 years was included into younger subgroup and all others were assigned to elderly subgroup. No significant subgroup pooled effects were found in younger subgroup (Z=1.65, P>0.05). However, in elderly subgroup, there was a significant effect(Z=10.31, P<0.05). In the two groups, the subtotal effects were -0.27(-0.60,0.05) and-0.19(-0.22,-0.15), respectively. As for different regions, significant heterogeneity existed among studies conducted in America and China, but not in Europe (I2=47.00%). The subtotal effect was varied indifferent regions. The studies conducted among the European population displayed a higher subtotal effect and its WMD was -0.22, its 95% CI was (-0.27, -0.17) with Z=8.01 and P<0.05.

CONCLUSIONS These results indicated both exercise-only and exercise-diet intervention have displayed effect on decreasing the fasting plasma glucose, with a better results in later group. The pooled effect was more significant in longer intervention period, elderly age group and European group.

GW26-e2225

Changes in incidence and risk factors of gestational diabetes mellitus among pregnant women in Shanghai: a comparative study between year 2001 and 2010

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OBJECTIVES To determine the incidences of gestational diabetes mellitus (GDM) in Shanghai in two time points (2001 and 2010) respectively, and to further evaluate whether or not these risk factors of GDM have changed over time.